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Ranking Social Media Utilization among Tourists to Improve Marketing Innovation Using Bayesian Posterior Probability and Maximum Posterior Probability Procedure (MAP): Evidence from the Hospitality Industry in Ghana

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ABSTRACT

The emergence of information technologies has impacted on hospitality organisations, product-related processes and consumers' experiences of the hospitality industry. Our study sought to examine the extent to which tourists patronizing hospitality facilities in selected cities in Ghana, use social media platforms, the period they utilize these platforms, the specific activities social media is deployed to perform and degree of use of social media in performance of these functions. A total of 800 tourists participated in this research. We measured their perception of the importance of social media on travel process in three different phases (pre-visit, on site, post-visit). Regarding inter-phase ranking of use of social media by tourist, our Bayesian posterior probability and the Maximum Posterior Probability Procedure weights shows that tourist mostly used social media platforms before their visits. We Further note that usage of social media in different activities in the respective phases differed marginally using the two weights.

Keywords: Information Technology; Social Media; Hospitality Industry; Tourists.

1. INTRODUCTION

Social media technologies or Web 2.0 avails a dais for interactive ways of communication (Wetvevrede, 2016). Edwards et al. (2017), posit that, the internet significantly impacts on Hospitality marketing indicating that the most likely way to access information in relation to travel and reservation is indeed through social media since there is greater collaboration among Internet users, content providers and enterprises regarding hospitality information shared on this platform. Web 2.0 being termed as an internet-based online media that has been developed to help shift power from the hospitality institutions to hospitality products consumers all so as to offer consumers more flexibility (Becker-Olsen & Guzmán, 2017). Similarly, the advent of social media technologies and their influence on the hospitality industry, presents a marketing challenge for the hospitality products in the sense that it has now taken

over the control of hospitality products from the big industrial players and empowered the hospitality consumers (Hsu, 2017). The emergence of information technologies according to L. Li, Peng, Jiang, and Law (2017) has overtime had a profound impact on hospitality organisations and product-related procedures and consumers' experiences of the hospitality industry as well. Development of the internet is currently posing a threat to the direct interactions between hospitality providers and consumers which are now shifted to exchanges involving customer-to-customer based interactions (Abubakar & Ilkan, 2016). Web 2.0 was supposed to be more of a vital marketing tool than advertising and cantered on services rather than products (Herring, 2013).

In an era where there is pervasiveness of social media, consumers of hospitality products have

opportunity to greater information regarding their choice products and facilities (Ganzaroli, De Noni, & van Baalen, 2017). Figure 1 show the three main social media classifications based on purpose of utilization and its frequency.

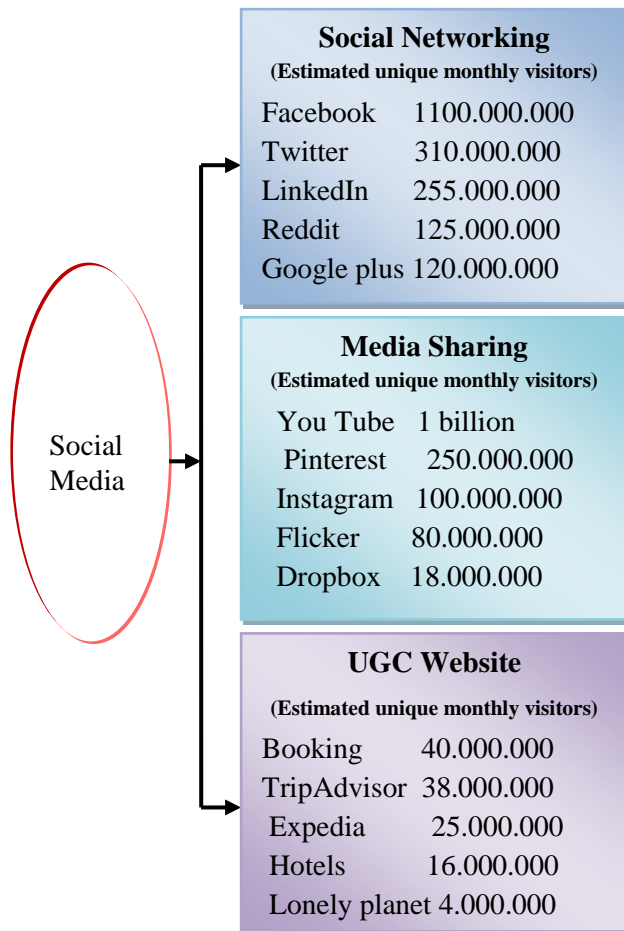


Figure 1. Categories of Social Media (Web 2.0 as derived from eBizMBA ranking July, 2017)

Lepkowska-White (2017) asserts that, the availability of social media has provided an opportunity for consumers of hospitality products to discuss and share their rich or otherwise experiences with various people including potential users of such products on a wider platform. There is a greater opportunity provided by social media to hospitality providers to extend to a wider consumer network by displaying their products, service contents and various important information that tends to be useful to these actual and potential consumers globally. This opportunity was however not possible in the recent past decades where consumers of hospitality products/services could only exchange information with a few people (Aktan & Ozupek, 2017).

Information is expedited among end users of hospitality products/services through the use of social media due to the fact that social media offer

numerous communication channels by means of the internet. Such social networking channels include Facebook, Twitter, Expedia, TripAdvisor, Yahoo Travel, LinkedIn which enable users to post or express their ideas and also place advertisements while other networking sites such as, Instagram and Flickr provide their users the opportunity to share photos, and other users also use platforms like the YouTube to share videos. In the area of hospitality management decision making behaviour too, social media has actually made a significant impact. Currently, more than 1.6 billion people use social media network whilst over 64 percent of internet users access social media services online (Thach, Lease, & Barton, 2016). According to statistics, among the most popular ways in which online users pass their time is social networking, enabling them to be in contact with friends and families, be abreast with news and other contents (Verduyn, Ybarra, Résibois, Jonides, & Kross, 2017). For instance, as at 2016, Instagram could boast of more than 500million active users who usually upload more than 95million photos and videos a day as per Steckman and Andrews (2017), from the first quarter of 2009 to the third quarter of 2016, LinkedIn had 467 million members globally, while tripadvisor.com also boasts of over 200 million reviews and suggestions emanating from consumers of hospitality products and services globally which shows a significant jump in numbers from the year 2002 as indicated by 75 million post by users (Marali, 2016).

The importance of social media in decision making processes has over the years been the major focus of researchers; however, researches on the extent to which travellers' and hospitality facility consumers depend on social media in the various stages of their journey in the existing literature is minimal. This paper therefore presents a structure which explores the various ways in which travelers and hospitality product consumers use social media as well as the manner in which the hospitality consumers' behavior is formed by the use of social media. In this research, the Ghanaian hospitality product consumers' preference regarding the use of social media for reservation, travel and hospitality marketing and also the extent to which social media is being used on different stages of the hospitality experience is examined. We contribute to the literature in existence by empanelling, modelling and deploying an ensemble of more sophisticated analytical model to ascertain the relative importance degree of every element for the Ghanaian hospitality product consumers on every given stage of their travel experience. We expect the findings of our study to inure to benefit hospitality firms in general and

Ghana in particular. It may afford a useful repository of how social media can be utilized to stimulate marketing innovation among budding and well established firms to maintain or stimulate competitive advantage. The organisation of the paper includes: Background of existing literature on social media and its relation to Hospitality. Section 2 introduces the literature review of the study. Section 3 is the methodology part which illustrates the steps of the study and overview of the methods used in this research. Lastly, the section 4 displays the results and findings as well as detailed discussion of this paper.

2. LITERATURE REVIEW

2.1: Impacts of social media

The concept of social media (Web 2.0) started later in 2004 and users being the key contributors generate the contents which form the basis of its operation (Brengharh & Mujkic, 2016). Table 1 describes the standards used in this study for social media users.

Table1. Standards used in this study for social media users

Standards	Options	Author(s)
Phase 1 (Pre-Visit)	Acquire trip advice; know the motivation products, information for comparison, information regarding hotels and other hospitalities available, and hospitality products purchase	(Cahyanto et al., 2016; Dileep, Sindhu, & Ismail, 2017; Doosti, Jalilvand, Asadi, Khazaei Pool, & Mehrani Adl, 2016; Erkan & Evans, 2016a, 2016b; Fang, Zhao, Wen, & Wang, 2017; Huang & Mas-Tur, 2016; Kim, Lee, Shin, & Yang, 2017; Neirotti, Raguseo, & Paolucci, 2016; Pabel & Prideaux, 2016; Peel & Sørensen, 2016; Song & Yoo, 2016; Tasci, 2016; Wu, Cui, Tseng, Hu, & Huy, 2017)
Phase 2 (On-Site)	Receive assistance for various circumstance, receive assistance in the case of challenging situations, carry on itinerary planning, day-to-day activities, discuss various knowledge gained.	Baldassar, Nedelcu, Merla, & Wilding, 2016; Bowie, Buttle, & Brookes, 2016; Chang & Busser, 2017; Hur, Kim, Karatepe, & Lee, 2017; Israeli, Lee, & Karpinski, 2017; W. G. Kim, Kim, Park, & Park, 2017; Lee et al., 2016; Nduhura & Prieler, 2017; Wang, Kirillova, & Lehto, 2017)
Phase 3 (Post-Visit)	Discuss various knowledge acquired Consumer satisfaction and delight Caution Commend Consumer buying decision	Berezina, Bilgihan, Cobanoglu, & Okumus, 2016; Bilgihan, Barreda, Okumus, & Nusair, 2016; Choe, Kim, & Fesenmaier, 2017; Dhaka, 2017; Leung, Sun, & Bai, 2017; Okazaki, Andreu, & Campo, 2017; Pawłowska, 2016; Thomas, Schrock, & Friedman, 2016; Turban, Strauss, & Lai, 2016; Yoo & Gretzel, 2016)

Ever since, social media and communication technology has seen intense progress. Therefore, social media has totally transformed the design, diffusion and consumption of information (Y.-M. Li, Lai, & Lin, 2017). Martinez et al. (2017) in a study showed that the emergence of internet technology has led to a continual increase in speed of computing, reduced size of industrial equipment, reduced cost of both hardware and software as well as enhanced reliability, compatibility and inter-connectivity of multiple workstations and applications.

Again a research conducted by Feeney and Welch (2016) points out that social media is no more a stage where individuals just create and display contents and applications rather, all users always jointly participate. This online exchange of content generated by consumers is considered as one of the key components of the continuous development of social media, Keegan, Keegan, Rowley, and Rowley (2017). Statista - a statistics portal, presents data on social media platforms used by marketers worldwide as of January 2017. Thirty (30) percent of respondents who are social media marketers used Pinterest to market their businesses.

The information in figure 1 indicates that social media has indeed become a popular source of information for users and thus improving the delivery of content for commercial marketing. With the aid of the internet, all persons including consumers of hospitality products and services worldwide can access all kinds of information that they need. For example, in a global online consumer survey conducted by Nielsen (2012) as cited in Sparks, So, and Bradley (2016) the result revealed that 70% of people, have confidence in the consumers views and feedbacks that are displayed and shared online, and placed second only to the recommendations of people who are Known to them, which placed first at 90%. Nonetheless, a study conducted in 2011 by Think travel with Google showed that the Internet was the leading source of information for accommodation and general hospitality services worldwide. Indeed, the result of the study specifically showed that 85% of respondents use the Internet to plan for accommodation and general hospitality services, whereas 60% of the respondents depended on their families, friends or colleagues for information when planning for hospitality services (Bilgihan, Barreda, Okumus, & Nusair, 2016; Murphy, Chen, & Cossutta, 2016).

2.2: Social Media and Internet Use in Ghana

The new media use in Ghana, like any other place is growing at a very fast rate. It is the Information

Communications Technologies (ICT) sector operating on a free market basis that has supported new media use in Ghana (Frempong, 2010). To Ghanaians, most popular aspects of the new media is the internet and its associated mobile and desktop applications (including social media platforms) for the purposes of business, education, health, publication, governance and the like (Mills & Plangger, 2015). As stated by Schuppan (2009), Ghana is undoubtedly one of the first countries to have internet access in sub-Saharan Africa. In November 2011, Dropifi, an application software that helps businesses to sort customer feedback was established by Ghanaian business incubators and entrepreneurs David Osei, Kamil Nabong and Philip Effah (Osiakwan, 2017). Dropifi also taps into social media platforms to enable companies have a larger customer reach of which the hospitality firms in Ghana are not left out.

As per the social media statistics in Ghana, March, 2018, the total number of online population for the following social media platforms are; Facebook 82.7%, Twitter 5.24%, Pinterest 5.24%, YouTube 4.31%, LinkedIn 1.02% and Instagram 0.85% (Bal, Grewal, Mills, & Ottley, 2015). According to Smart Insights' global social media research summary 2018, as cited in Carah, Meurk, Males, and Brown (2018) the global increase in social media usage since January, 2017 is 13% then part from Saudi Arabia which has (32%) the largest year-on-year increase in social media users, other countries with the largest usage are; India (31%), Indonesia (23%) and Ghana (22%) as technology is improving and social media becomes easily accessible to more of the population. In a study by Osei, Mensah, and Amenumey (2018) the use of social media for travel decision-making by international tourists in Ghana was assessed. It was discovered that tourists consider social media platforms very valuable for their travel planning. The study further revealed that Facebook and Google map were the social media platforms frequently used by the tourists.

Ghana was listed among 36 countries to be visited by travelers in 2016. The list was put together by a group of 35 expert and well-travelled bloggers from around the world, whose major focus is in adventure travel, ecotourism, cultural travel and family travel. Ghana keeps discovering sustainable means of growing and harnessing its tourism potential in order to attract both local and foreign tourists (Ramón-Hidalgo, Kozak, Harshaw, & Tindall, 2018).

Recently, the Ministry of Tourism alongside, the Ghana Tourism Authority being its implementing agency has continued to introduce and develop a

wide range of tourism related programs and activities including the use of social media marketing in order to sustain interest and increase earnings within the sector (Kotoua & Ilkan, 2017). In this light, it becomes interesting to rank social media use to ascertain how it is faring as a feature of marketing innovation in the hospitality industry in Ghana.

2.3: Social Media and Hospitality

The increased user rate of the internet and social media has intensely impacted the hospitality industry more than other industries according to Yoo & Gretzel, (2016) who claimed that these two media technologies have assumed a significant position in the everyday activities of the customers and consumers of hospitality products and services globally in terms of the quest for information and making of important decisions about choice of destination and services. The use of social media for hospitality businesses has changed dramatically these days in that the Internet has fast become the best and most effective and reliable tool of communication and the search for information in the global business arena (Pantano, Priporas, & Stylos, 2017). The hospitality industry has actually embraced the social media phenomenon and therefore is heavily dependent on the internet for its operations and other business activities (Parker, Van Alstyne, & Choudary, 2016). In view of today's innovative developments in technologies, owing to the emergence and the fast progression of social media, managers of hospitality facilities should consider this changed phenomenon as a tool for competitive advantage in the industry and thus design operational strategies with regards to their dealings with future business and interactions with both their present and future customers. In a study by Fuchs et al. as cited in Teruelle (2016) they indicated that managers of the hospitality industry are well abreast with the established linkage between information and communication technologies (ICT) exploitation and competitiveness in the industry and thus, in making key decisions, managers of hospitality facilities should take into consideration experiences and the prevailing situation of the industry environment before new technologies are introduced in their business operations.

The easy accessibility of social media to the modern consumer of hospitality products and services is considered a privilege since every bit of information on hospitality products, services and destinations are there for them at all stages during their search which facilitates their decision making. Through usage of social media, consumers of hospitality products and services can be engaged by these hospitality

facilities in designing the content of their websites by incorporating valuable suggestions and feedback from these customers rather than seeing them as mere visitors to the sites as has been the trend for the past years (Semerádová & Vávrová, 2016). A study by Kaplan and Haenli as was cited by Dhaka (2017) had indicated earlier that, development in information and communication technologies (ICT) will potentially alter the purchasing decision making behaviour of customers and consumers of hospitality products and services. In a similar vein, Gretzel et al cited in Sotiriadis and Sotiriadis (2017) had stated that social media will impact tremendously on the behaviour of customers and consumers of hospitality products and services. In confirming this prediction by Gretzel et al., Blomberg-Nygaard and Anderson (2016) citing from The World Tourism Organization indicated that the role of social media alongside user-generated content (UGC) has been well examined in numerous studies. For instance, Tussyadiah and Fesenmaier according to Gon, Pechlaner, and Marangon (2016) studied videos displayed on several social media networks on hospitality, whereas in the case of Wenger in Caldwell and Heaton (2016) examined various weblogs and their content and again Xiang and Gretzel as per Bhusal (2016) only embarked on a curious adventure on various hospitality sites. A lot of studies have been conducted to critically look into the role of social media regarding customers' decision making behaviour on their choice of a particular hospitality facility.

A survey carried out by eMarketer (Zhang, 2014) revealed that 62% of American consumers of hospitality products and services read online comments and experiences of users of hospitality facilities before deciding on the kind of facility and services to choose. A research conducted by Chung and Buhalis as indicated by Song and Yoo (2016), about the factors that influence hospitality customers for their participation of Internet and social media communities revealed that, apart from the acquisition of valuable information on social media sites, the most significant reason for their online contribution are the social and epicurean benefits. It must however be stated that this category of online contributors is very broad and thus, this current research, specifically aims at examining the significance of social media on the Ghanaian hospitality customers and consumers using three main criteria and also examining 16 other alternatives in detail centered on the following categories.

2.4 Criteria and Alternative Selection

Table 1 summarizes the three main criteria and 16 other alternatives that have been used in this research which represent the major features of what the users of social media in the hospitality industry talk about nowadays.

3. MATERIALS AND METHODS

3.1 Data Collection

A total of 800 tourist that visited hospitality facilities in three regional capitals in Ghana participated in this research. Accra, Cape Coast and Takoradi were specifically selected because they represent the largest destination of tourist that visit Ghana due to their colonial significance. We measured their perception of the importance on social media on travel process in three different phases (pre-visit, on site, post-visit). We strictly noted the level of social media influence on the respondents travel process in each of the three phases and their subcategories. At first, we used three criteria to evaluate and prioritize the weights of social media utilization and completed the process with 16 alternatives in the second stage. We solicited the professional skills of 10 experts in the Institute of Open Economy in Jiangsu University to use linguistic term provided to them in order to express their preference on alternatives and the results is provided in table 2. We subsequently converted and coded these linguistic variables in fuzzy and Bayesian theorem and numbers by assigning assessment values to them as "Equally important," "Weakly more important," "Strongly more important," "Very strongly more important," and "Absolutely more important." Following each linguistic value was characterized by a triangular fuzzy and Bayesian number within the range of 1 and 9 to reflect the fuzziness of the terms. Finally we used ANOVA F-test to examine the significant difference between the phase weights under the Maximum Probability Procedure and the Bayesian Posterior Probability. Details of the analytical procedure are explained in subsequent section.

3.2 Analytical Procedure

This paper first employs the Bayesian posterior probability model that utilizes posterior probabilities to compute the rank probabilities of variables employed in the study. The Bayesian posterior probability model of a random event is the conditional probability that is assigned after relevant evidence is taken into account. The Bayesian posterior probability of a random variable can be calculated with the Bayes' theorem by multiplying the prior probability distribution function by the

likelihood function and then dividing the by the normalizing constant as;

$$P_{X/Y=y}(x) = \frac{P_X(x)L_{X/Y=y}(x)}{\int_{-\infty}^{\infty} P_X(x)L_{X/Y=y}(x)dx} \quad (1)$$

where $f_{X/Y=y}(x)$ gives the posterior probability density function of a random variable X given the data Y=y, $f_X(x)$ is also the prior probability density function of the random variable X, $L_{X/Y=y}(x)$ is the likelihood function as a function of x, and $\int_{-\infty}^{\infty} f_X(x)L_{X/Y=y}(x)dx$ refers to the normalizing constant. The prior probability density function is as a result computed using the relation;

$$P(\tilde{x}/\alpha) = \int_{\theta} P(\tilde{x}/\theta) * P(\tilde{x}/\theta)d\theta \quad (2)$$

where \tilde{x} denotes a new data point whose distribution is to be predicted and θ is a vector of parameter space.

Considering a process of generating multiple random variables or events X_n which in this paper includes gain travel advice, inspiration, products comparison, information about attractions, information about destinations, purchase travel products, get help in different circumstances, get help in difficult situations, on location travel planning, continue daily routines, share experiences on site, share post-visit experiences, express satisfaction, recommend, warn and purchase decision, the probability distribution of X_n is unknown. Let the space of the event (δ) represent the current belief about the process. Suppose there is M_m hypotheses about the process then each model defined by $p(X_n/M_m) * p(M_m)$ is a degree of initial belief in M_m , where $\{p(M_m)\}=1$. Suppose the event $X \in \{X_n\}$ is observed for each hypothesis $M \in \{M_m\}$ the prior of $p(M)$ is updated to posterior $p(X/M)$ based on the Bayes' theorem as;

$$p(M/X) = \frac{p(M/X)}{\sum_m p(X/M_m) \cdot p(M_m)} \cdot P(M) \quad (3)$$

In the case of multiple events or variables as the study employs, $X = \{x_1, \dots, x_n\}$ the posterior probability distribution is given by;

$$p(M/X) = \frac{\prod p(x_i/M)}{\sum_m p(X/M_m) \cdot p(M_m)} \cdot P(M) \quad (4)$$

By parameterizing the space of the hypothesis, the belief of all hypotheses can be updated in single step. The distribution of belief over the hypothesis space can then be considered as a distribution of belief over parameter space. Suppose the vector θ span the parameter space, the initial prior distribution over θ

is $p(\theta/\alpha)$ where α a set of parameters to the prior is. By letting $x_1 \sim p(x/\theta)$, the posterior distribution over θ is given by;

$$p(\theta/X, \alpha) = \frac{\prod p(x_i/\theta, \alpha)}{\int_{\theta} p(X/\theta, \alpha) \cdot P(\theta/\alpha) d\theta} \cdot P(\theta/\alpha) \quad (5)$$

The second method or procedure used in our study to rank social media utilization in Ghana is the maximum posterior probability (MAP) procedure. The maximum posterior probability method in Bayesian statistics is an estimate of an unknown quantity that equals the mode of the posterior distribution. The MAP is used to obtain a point estimate of an unobserved quantity on the basis of empirical data. The procedure employs an augmented optimization objective which incorporates a prior distribution (that quantifies the additional information available through prior knowledge of related event) over the quantity one wants to estimate. Assuming the estimation of an unobserved population parameter θ on the basis of observations x , let f be the sampling distribution of x so that, $f(x/\theta)$ is the probability of x when the underlying population parameter is θ . Then the function;

$$\theta \rightarrow f(x/\theta) \quad (6)$$

is known as the likelihood function and the estimate:

$$\hat{\theta}_{MLE} = \arg_{\theta} \max f(x/\theta) \quad (7)$$

is the maximum likelihood estimate of θ .

Assuming that a prior distribution g over θ exist allows θ to be treated as a random variable. The posterior distribution of θ using the Bayes' theorem can therefore be computed as;

$$\theta \rightarrow f(x/\theta) = \frac{f(x/\theta)g(\theta)}{\int_{\theta} f(x/\theta)g(\theta)d\theta} \quad (8)$$

where g is a density function.

The method of maximum posterior probability then estimates θ as the mode of the posterior distribution of this random variable:

$$\hat{\theta}_{MAP}(x) = \arg_{\theta} \max f(\theta/x) = \arg_{\theta} \max \frac{f(x/\theta)g(\theta)}{\int_{\theta} f(x/\theta)g(\theta)d\theta} = \arg_{\theta} \max f(x/\theta)g(\theta) \quad (9)$$

4. Results and Discussions

Table 2 Inter-phase Ranking of Use of Social Media by Tourist

DECISION CRITERIA	WEIGHT OF MAP	WEIGHTS OF BPP	SIGNIFICANCE LEVEL
PREVISIT PHASE	0.18228	0.196	0.034
Gain travel advice	0.3528	0.2058	0.034
Inspiration	0.2254	0.2058	0.034
Products comparison	0.147	0.2058	0.034
Information about attractions	0.1176	0.196	0.034
Information about destinations	0.0686	0.1666	0.034
ON-SITE PHASE	0.1748	0.1633	0.034
Purchase travel products	0.0686	0	0.034
Get help in different circumstances	0.3822	0.2744	0.034
Get help in difficult situations	0.3038	0.294	0.034
On location travel planning	0.147	0.245	0.034
Continue daily routines	0.0882	0.1666	0.034
Share experiences (on site)	0.0588	0	0.034
POST VISIT	0.98	0.9898	0.034
Share experiences (post-visit)	0.441	0.294	0.034
Satisfaction	0.2254	0.2646	0.034
Recommend	0.1568	0.2548	0.034
Warn	0.0882	0.1764	0.034
Purchase decision	0.0686	0	0.034

The information in table 2 shows the inter-phase ranking of use of social media by tourist using the Maximum Posterior Probability Procedure (MAP) and the Bayesian Posterior Probability weights. Overall, the analysis shows that tourist that visited Ghana within the research period mostly used social media platforms before their visits and these were largely to gain travel advice, gain inspiration, compare products and services and look for information about attractions and destinations. Overall, the results of both Maximum Posterior Probability Procedure (0.18228) and the Bayesian Posterior Probability (0.196) weights supported this at no statistically significant difference in weights (0.03). The next most important use of social media by tourist is when tourists are already on site. In that regard the Maximum Posterior Probability Procedure (0.1748) and the Bayesian Posterior Probability (0.1633) weights shows that tourist in Ghana frequently used it to purchase travel products, get help in different circumstances, get help in difficult situations, plan location travel and continue daily routines. Finally post-visit use of social media was recorded with the lowest emphasis and use among the tourist. The recorded Maximum Probability

Procedure weight (0.98) and the Bayesian Posterior Probability weight (0.9898) supports this claim and it is statistically not different from each other.

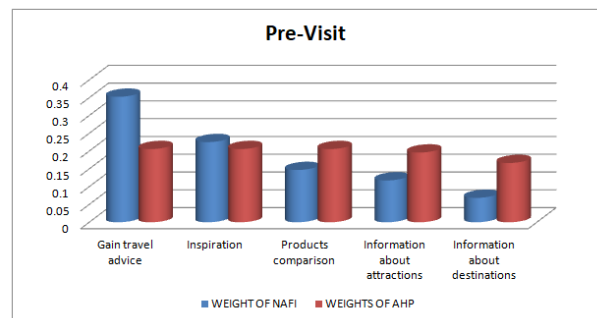


Figure 2: Comparative analysis of Influence of Social Media during Pre-visit Phase

Figure 2 presents the comparative analysis of the influence of social media on tourist pre-visit activities. The Maximum Posterior Probability Procedure suggests that gaining travel advice is the strongest factor that influences tourist pre-visit use of social media. These are followed by inspiration gained from social media and the ability to compare products and service offerings. However, the Bayesian Posterior Probability ranks gaining travel advice, inspiration and products comparison. While the use of social media to solicit information about attractions and its use to solicit information about destinations are significantly different from each other based on the weight of Maximum Posterior Probability Procedure, the significant difference between the Bayesian Posterior Probability weights of information about attraction and information about destination as determinants of the use of social media amount tourist that visited country was wide.

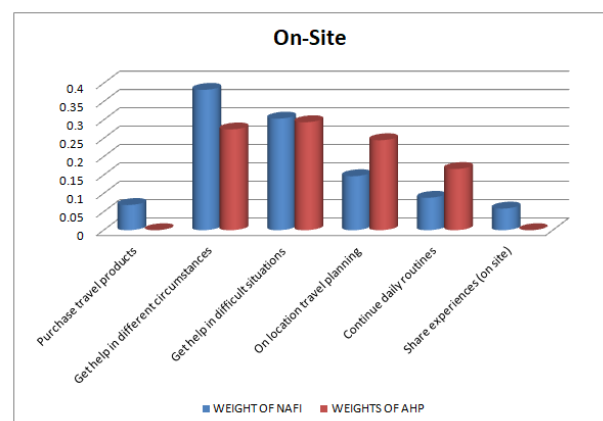


Figure 3: Comparative analysis of Influence of Social Media during Visit Phase

The differences in the use of social media during onsite tourist activities are also shown in Figure 3 to be different from each other. For example while purchase of travel product and sharing experiences

when onsite recorded a zero Bayesian Posterior Probability weight, the Maximum Posterior Probability Procedure returned a weight of 0.0686 and 0.0588 respectively. Further, the figure shows that using social media to get help in different circumstances are as significant as using it to get help in difficult situations and these are validated by the Bayesian Posterior Probability and the Maximum Posterior Probability Procedure. The odd of using social media for locations planning based on the Bayesian Posterior Probability outperform that of the Maximum Posterior Probability Procedure yet both are statistically significant.

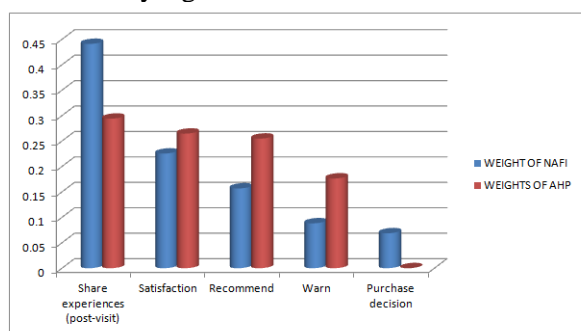


Figure 4: Comparative analysis of Influence of Social Media during Post-Visit Phase

Overall the post-visit use of social media recorded the lowest weights using the Maximum Posterior Probability Procedure and the Bayesian Posterior Probability. Even in this case, the use is not equally significant among the different issues considered by the respondents. In both cases, the weights of using social media to share post-visit experiences outperformed the use of social media to express satisfaction. The latter nevertheless equally outperformed the use of social networks for recommendation, warning and purchase decisions.

5. CONCLUSIONS

Existing studies have posited the Web 2.0 as an internet-based online media which has the potential to help shift power from the hospitality institutions to hospitality products and consumers all in an attempt to offer consumers more flexibility. In countries with high illiteracy rate and lower access to internet and technology related communication gadgets such as Ghana, it is perceived that using social media as a marketing tool is still an adventure in transition that requires extensive sensitization and outlay of resources. Thus our study sought to examine the

extent to which tourists patronizing hospitality facilities in selected cities in Ghana uses social media platforms, the period of their trips they utilize these platforms, the specific activities the social media is deployed to perform and the degree of use of social media in the performance of these functions. This could provide useful information on the need for hospitality firms to invest in social media marketing in one way or the other. The study outcome suggests growing interest in the use of social media by hotel consumers such as tourist. For example it is observed that in the inter-phase ranking of use of social media by tourist, our Maximum Posterior Probability Procedure and the Bayesian Posterior Probability weights shows that tourist mostly used social media platforms before their visits. Even though our research findings are consistent with Balouchi and Khanmohammadi (2015) that hospitality consumers use social media for different purposes and in different extent, we specifically, suggest that the predominant usage of social media is during the pre-visit phase than the onsite and post-visit in ranking order. Our findings further confirm the earlier work of Balouchi and Khanmohammadi (2015) whose study returned similar outcome regarding the use of social media by tourists. We further note that usage of social media in the different activities in the respective phases differed marginally using the two weights. This has significant implication for hotels that would want to use social media for marketing purposes. At the onset we indicated that social media are innovative Web-based applications in online marketing that can be deployed to support the development of industries. Our findings suggest that hospitality firms utilize social media to form online communities to build new business models that include a new product marketing channel and build strong relationships with consumers by overcoming limitations of time and place. Specifically, within the Ghanaian hospitality industry, our findings reiterate the growing interest, acceptance potential of social media as a marketing platform for business organisations including hotels in Ghana. Thus, it behooves on hotel managers in Ghana to develop unique and innovative ways of using social media to market their products/services. This is especially necessary in a Ghanaian business environment fraught with socio-technical challenges.

Hotels can stimulate greater use of social media by creating awareness to inform the target group of the benefits of using social media platforms in accessing hospitality products/services. Where necessary fliers, exhibition and word-of-mouth promotion can be used to support other industry led- platforms to popularize social media use among its customers. This is as important as hotels effort to establish a strong social network presence through the creation of accounts on major social media platforms to reach its varying target audience.

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